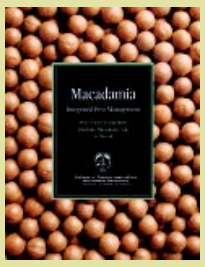
Insect and Mite Pests of Macadamia Nuts in Hawai‘i—A Quick Reference Guide

College of Tropical Agriculture and Human Resources • University of Hawai‘i at Mānoa

This poster provides a quick reference guide to CTAHR's book *Macadamia Integrated Pest Management* by Vincent P. Jones, 2002.

Compiled by Mark G. Wright, Department of Plant and Environmental Protection Sciences. CTAHR publication IP-12, June 2003.
Photos from V. Jones, *Macadamia Integrated Pest Management*, 2002.



The most important arthropod pests of macadamia are illustrated here, with brief comments on their biology and the damage caused. A page reference to the Jones book is provided for each.

Tropical nut borer (TNB) (Jones, p. 24)

Where do they occur?—TNB are found in sticktight nuts, in nuts on the orchard floor, and in alternative hosts, e.g., carob, asoka fruit, and castor bean.

Egg, larva, and pupa

Adult TNB

Damage to a kernel by TNB

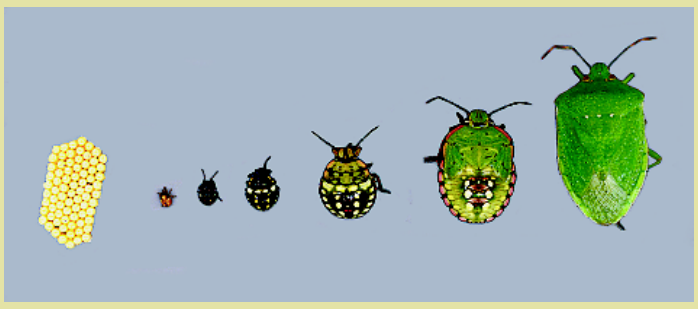
What kills them?—The beetles shown here eat the eggs and larvae of TNB. Chemical control can be achieved with endosulfan.

Predatory beetle larva

Beetle adults

Southern green stinkbug (SGS) (Jones, p. 35)

Where do they occur?—SGS attacks macadamia nuts and various weed species. They attack nuts both on the tree and the ground.



Eggs and different stages of SGS development

SGS causes pitting on kernels, resulting in rejection of nuts by processors.

SGS damage to kernel

What kills them?—SGS eggs are parasitized by a wasp; the adults are parasitized by a fly. The flies lay eggs on the adult SGS (arrow), and their larvae burrow into and kill the bug.

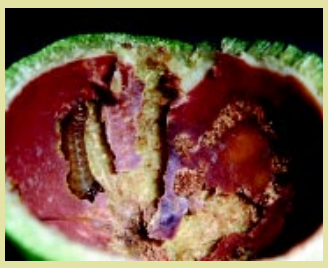
Wasp (1/16″ long)

Fly (3/8″ long)

Koa seedworm and litchi fruit moth (Jones, p. 42)

Where do they occur?—Koa seedworm moths lay their eggs on the husks of macadamia nuts. The larvae then bore into the husk or kernel, if the shell has not yet hardened.

Eggs (3/100″ diameter)



Larvae may bore into the kernel

Adult koa seedworm moth

Koa seedworm damage to macadamia kernels

What kills them?—No parasites of their eggs are found here. Some parasitic wasps attack and kill the larvae. Chemical control of koa seedworm is not recommended.

Wasps (four species) (bodies ~1/16″ long)

Some minor pests

Broad mites feed on macadamia flowers, leaves, and fruit; damage to flowers may be significant (Jones, p. 52).

Broad mite damage on husks

Flat mites rarely cause economic damage (Jones, p. 54).

Flat mite damage on husks

Redbanded thrips feed on husks and leaves. They may cause malformation of leaves (Jones, p. 56).

Thrips damage to leaves

Redbanded thrips damage to husks

Redbanded thrips juveniles have red bands; adults are black

Published by the College of Tropical Agriculture and Human Resources (CTAHR) and issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Andrew G. Hashimoto, Director/Dean, Cooperative Extension Service/CTAHR, University of Hawaii at Manoa, Honolulu, Hawaii 96822. An Equal Opportunity / Affirmative Action Institution providing programs and services to the people of Hawaii without regard to race, sex, age, religion, color, national origin, ancestry, disability, marital status, arrest and court record, sexual orientation, or veteran status. CTAHR publications can be found on the Web site <http://www.ctahr.hawaii.edu> or ordered by calling 808-956-7046 or sending e-mail to ctahrpub@hawaii.edu.